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U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

1972 ANNUAL REPORT  
OF

# PLANT MATERIALS CENTER

COFFEEVILLE, MISSISSIPPI

PART 2



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Organization of the  
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## COFFEEVILLE PLANT MATERIALS CENTER

### ANNUAL TECHNICAL REPORT

1972

#### PART II

This report describes the technical activities of the Coffeeville Plant Materials Center for the calendar year 1972.

The Center is located seven miles west of Coffeeville, Mississippi on Tillatoba Road. It is comprised of approximately 195 acres of land leased from the U. S. Forest Service. Soil conditions vary widely from nearly level, moderately well drained bottomland to severely eroded sloping land. Portions of the area cannot be utilized because of the terrain. These varying conditions provide several different sites on which to test plants. The principal soils are:

Gillsburg silt loam, IIw3.

Somewhat poorly drained, acid, bottomland, on a 0-2 percent slope.

Grenada silt loam, 0-5 percent slope, IIw1, and IIa2.

Both soils are medium acid to very strongly acid, are high in silt content, and have fragipans at about 30".

Loring silt loam, 2 to 12 percent slopes, eroded to severely eroded, IIe1, IIIe1, IVe1, and VIe1.

These soils are moderately well drained, high in silt content, strongly to very strongly acid, and have a fragipan beginning at about 27".

Providence silt loam, 2 to 12 percent slopes, eroded to severely eroded, IIe2, IIIe2, and VIe2.

These soils are moderately well drained, strongly to very strongly acid, have a sandy loam to clay loam texture, and a fragipan as shallow as 18".

## Weather Summary

Weather conditions during 1972 were typical of those for this location and no real extremes occurred. Both summer and winter temperatures averaged near normal with no severe or prolonged hot or cold periods. A total of 58.47 inches of rain fell. February was the driest month with only .81 inches and November was wettest with 8.16 inches. A monthly rainfall chart is shown below:

January	7.16 inches	May	6.46 inches	September	6.35 inches
February	.81 "	June	3.24 "	October	3.04 "
March	7.15 "	July	5.15 "	November	8.16 "
April	2.89 "	August	1.94 inches	December	6.12 "

Total rainfall for the year---58.47 inches.

Rain fell with such regularity during November and December that it prevented harvest of some seed and delayed the planting of the seed of woody stock.

### I. Assembly of Plant Materials

One hundred forty-one accessions of plants were received by the Center in 1972. This is an unusually small number of plants to receive in one year. Many requests for plants went unfilled in 1972, but should be filled in succeeding years.

All plants received have been, or will be, established in appropriate areas. They will then be observed and tested for potential to solve various conservation problems as follows:

#### A. Streambank or Reservoir Levee Erosion Control.

This is one of the major problems in the area served by the Center. During 1972, accessions of Myrica, Ampelopsis, Paulownia, Scirpus, Phalaris, Zizianopsis, Populus, and Acrocerus were received for testing on these problems.

#### B. Erosion Control on Roadbanks and Similar Sites

These areas are a major problem, being very unsightly and depositing large amounts of silt into streams. Accessions of the genera Agrostis, Panicum, Themeda, Bothriochloa, Coronilla, and Eragrostis were received for observation and testing.

#### C. Cool Season Forage Production and/or Erosion Control.

The following genera of plants were received: Festuca, Bromus, and Vicia. They will be evaluated for potential in erosion control and cool season forage production.

#### D. Wildlife Food Plants

Many types of plants are needed to meet the year-round food needs of wildlife in the area served by the Center. Plants assembled in 1972 to be evaluated for that purpose include Vicia, Zizania, Sorghum, Castanea, Prunus, Nyssa, Quercus, Caperonia, Ulmus, and Echinochloa.

#### E. Miscellaneous

Various other accessions were received. Each will be evaluated for potential to solve problems for which each plants appears to have possibility.

### II. Preparation of Three Technical Manuscripts Reporting Previous Plant Performance Tests

In past years, the Center has made some plant performance tests which have not been well documented in the corresponding Annual Reports. These tests contain information of possible value to plant scientists within or outside the Soil Conservation Service. In order that this information might be made available, three such tests were written up in 1972.

These manuscripts were written as summarizations of the tests. Each should be suitable for publication as a technical note or an article in some journal. None were printed in either of these forms in 1972. The summarizations written up are listed by title with a brief description of each.

#### 1. A determination of the Best Month to Plant Maidencane

This write-up describes a test, and the results, of monthly plantings of a maidencane (Panicum hemitomom) accession from Halifax County, North Carolina. Rhizomes were planted both immediately after digging and after being held for up to 48 hours to simulate shipment conditions. Immediate survival and width of spread one year after planting were compared for each monthly planting.

#### 2. Seed Treatment Test to Induce Germination in Eastern Redcedar

This write-up describes a brief attempt to break seed dormancy in Eastern Redcedar, Juniperus virginiana. Seed treatment materials were concentrated sulfuric acid, hydrogen peroxide, and gibberellic acid. Treatments involved all these materials individually and in all possible combinations. Germination results were compared.

### 3. An Underwater Deterioration Study of Seed Suitable for Waterfowl Food

In this test, ten accessions were subjected to underwater storage for up to ninety days during the winter. The test ran for three consecutive years, with deterioration checks being made at the end of 30, 60, and 90 days. Results were compared for the ten different accessions studied.

### III. Completion and Update of Project Plans for Current Activities

Often evaluation projects for plants carry over from one year to the next. As information is obtained, certain aspects of the plan for evaluation may need modification to reasonably carry out the Project to completion. Such was the case at the Coffeeville Center.

A meeting involving the Regional Plant Materials Specialist, the Washington Field PMS, and the Center Manager was devoted to this problem. At that time, certain project plans were studied and completion and revision needs were decided upon. The Center Manager made these changes as needed.

#### Supplemental Evaluations

Supplemental evaluations are set up to test plants which were selected as being superior in initial observation. Here these selected plants are studied to gain certain needed information about them before they are increased for field testing. During 1972, the following supplemental evaluations were being conducted:

#### A. A test to Determine Seed Production in Selected Accessions of Paspalum distichum and P. vaginatum

Abstract: An attempt was made to increase seed production in seven accessions of Paspalum distichum, knotgrass and three accessions of P. vaginatum, seashore paspalum. Each accession was planted vegetatively in a 5' X 20' plot. Differing fertilization rates coupled with intermittent clipping were used as an attempt to produce a mechanically harvestable seed crop.

In all instances, weedy grasses invaded the plots to such an extent that no seed production comparisons were possible. More effective weed control would be necessary in order to get meaningful results.



Stream channel erosion is a serious problem in much of the area served by the Coffeeville Plant Materials Center. Plants capable of reducing this erosion and which can be established from seed are urgently needed.

Paspalum distichum, knotgrass, and P. vaginatum, seashore paspalum, have some qualities which make them capable of reducing such erosion on some streams. Both occur naturally in the Southeast United States, according to Hitchcock. Seashore paspalum is said to be salt tolerant, while knotgrass is primarily restricted to wet, freshwater areas. Both plants spread by means of extensively creeping stolons, and some seed are produced.

No accessions of either species proved to be a good seed producer during initial observation at the Center. The following test was an attempt to increase seed production and to determine which of the ten accessions tested was the best seed producer.

#### Materials and Methods:

A field of Oaklimer silt loam was selected as the planting site. A seedbed was prepared and approximately 2000 square feet of a level area was enclosed by a dike one foot high.

#### Establishment:

The following ten accessions were planted vegetatively as a single row in 5' X 20' plots (3' between plots) on May 20, 1970:

Paspalum distichum-MS Numbers-3152, 3153, 3154, 3155, 3175, 3178, 3182

Paspalum vaginatum-MS Numbers-3247, 3248, 3249

#### First Year Management:

Four hundred pounds of 13-13-13 per acre was applied at planting time. Water was trickled onto the area to keep the soil soggy wet, except that it was stopped monthly. The soil was allowed to dry enough to mow each plot. Water application was then continued.

Any clippings mentioned above containing any reasonable numbers of seedheads were retained, dried and threshed in order that seed production could be calculated.

#### Second Year Management:

Each plot was divided in two subplots of 5' X 10'. One subplot received 68 pounds of nitrogen per acre in a single application May 12, 1971. The other subplot received no fertilizer. Water was trickled into the area to keep the soil soggy wet, except that the plots were allowed to dry periodically for clipping.

Plots were clipped at approximately 3 weeks intervals until June 1. They were then allowed to grow until a seedcrop was set and matured. At this time, they were clipped, and all clippings, were retained for drying, threshing, and seed production calculations.

#### Third Year Management:

Diuron herbicide at the rate of approximately 1.6 pounds per acre was applied March 29, 1972 in an attempt to control annual weedy grasses. Other management was the same as the second year.

#### Results and Discussion:

During the first year, all ten accessions planted spread to adequately cover the plots. No clippings were retained for threshing, as no reasonable amounts of seed heads were produced. Invasion of weedy grasses onto all plots was a problem.

In the second year, weedy grass competition was very severe. Seedheads were produced on all subplots. Clippings were retained from all subplots clipped during mid-July and late August. These clippings failed to yield any meaningful quantities of seed. There was such an abundance of vegetative material from the weedy grasses that a majority of seed was lost.

The application of Diuron in 1972 did not control the problem of weedy grasses. It gave fair control until mid-May but then the grass problem became acute. Clippings from all subplots taken during early August were retained. Upon threshing these clippings, no meaningful seed production could be ascertained.

This test was discontinued after 1972. It failed to provide any method for producing reasonable quantities of seed on any of the ten accessions tested. Some better control method is needed for the weedy grasses. The indeterminate seed maturity of the grasses tested further complicates the problem of seed harvest.

#### Reference:

Hitchcock, A. S. 1950. Manual of Grasses of the United States. U. S. Government Printing Office. Washington, D. C. pp. 603-604.

#### B. Evaluation of Myrica spp. as Stream Channel Erosion Control Plants

The genus Myrica contains wax myrtles and bayberries, both of which have potential for stream channel erosion control.

Certain types spread vegetatively to form dense colonies. Many are adapted to wet situations such as often occur in stream channels. Most are small to moderate size shrubs, and therefore would not greatly impede the flow of water.

The Coffeetown Plant Materials Center proposed to evaluate plants of this genus for characteristics suitable for stream channel erosion control. Seed of thirty accessions were assembled during the fall of 1971 and the winter of 1972. These seed were collected from Louisiana to Massachusetts.

On April 10, 1972, a fifty foot row of each of the following accessions was planted from seed:

Myrica carolinensis-MS 3688  
M. cerifera-MS 3685, 3686, 3699, 3700, 3706, 3711, 3714,  
3718, 3720, 3722, 3723  
M. gale-MS 3773, 3774  
M. pennsylvanica-MS 3702, 3703, 3704, 3705, 3707, 3708,  
3709, 3710, 3713, 3715, 3716, 3717,  
3719, 3721,  
M. pumila-MS 3701  
Myrica sp.-MS 3689

Ten seedlings from each of the thirty accessions were to be transplanted to a suitable growing site in the fall of 1972. These were to be observed, and superior types selected.

No germination occurred in any of the accessions; possibly the late planting date affected germination. All rows were retained and germination will be checked in the spring of 1973

#### C. Planting Date and Depth Requirements for Germination and Establishment of Five Species of Plants

Two year test results of this test were written up in final form in the 1971 Annual Technical Report of this Center. There was a three month gap in this data, however. Also, some results were inconclusive. For this reason, it was decided that 12 additional months of testing was needed.

Briefly stated, the testing was to be carried out as follows:

Twelve monthly plantings would be made at depths of 0",  $\frac{1}{4}$ ",  $\frac{1}{2}$ ", 1", and 1 $\frac{1}{2}$ " for the following plants:

<u>Echinochloa holubii</u>	MS-924
<u>Lespedeza virgata</u>	MS-126
<u>Panicum virgatum</u>	MS-155
<u>Paspalum nicorae</u>	MS-906
<u>Paspalum notatum</u>	MS-131

Each planting would require 100 seed of each plant for each of the five depths (total of 500 monthly for each plant). Each 100 seed was planted in a 3' length of row, with a 40" row spacing. Germination results would be recorded shortly after germination was accomplished. One year after germination, a visual estimate of percent ground covered would be made.

These monthly plantings were started in October 1972.

#### IV. Initial Increase for Special Purposes and Center Use

Andropogon scoparius- Little bluestem, MS Numbers 332, 333, 748, and 1772. These four accessions are similar in regard to growth characteristics, maturity date, etc. Seed of the four were mixed together and planted in April, 1972. Some germination occurred, but crabgrass competition made it impractical to retain this planting.

Myrica spp.- Thirty accessions were available for planting. A fifty foot row was planted from seed in April 1972. No germination occurred for any of these accessions, but all rows were left undisturbed for possible germination in 1973.

Panicum virgatum, Switchgrass, MS numbers 17 and 18- These two switchgrasses withstood closer clipping than any other accessions in clipping trials and still made good regrowth. They were the two latest maturing species. Total volume of forage production compared favorably with all other accessions.

Approximately 500 feet of row of each accession was planted from seed in April 1972. Germination was poor, and the plantings were destroyed.



## SEED FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	PI or Other No.	Amount Planned Seed (lbs.)	Area in Production	Amount Harvested Seed (lbs.)	Purpose of Increase	*
<u>Echinochloa frumentacea</u>							
<u>Chitwapa millet</u>	181	BN 8963	500 lbs	1 acre	00	C.2	
<u>Eragrostis curvula</u>	F.P.						
<u>Weeping lovegrass</u>			800 lbs	15 acres	520 lbs	A.2 & A.4	
<u>Festuca arundinacea</u>	539						
<u>Artrens fescue</u>			100 lbs	3/4 acres	130 lbs	E.1	
<u>Festuca arundinacea</u>	1601						
<u>KY 31 fescue</u>			10,000 lbs	40 acres	15,800 lbs	A.4	
<u>Glycine ussuriensis</u>	128						
<u>Wild reseeding soybean</u>			500 lbs	3 acres	840 lbs	C1 & C.4	
<u>Lespedeza cuneata</u>							
<u>Sericea lespedeza</u>			8000 lbs	75 acres	8300 lbs	A.4	
<u>Lespedeza virgata</u>	126						
<u>Spreading lespedeza</u>			500 lbs	2 acres	00	A.4	
<u>Panicum virgatum</u>	155						
<u>Pangburn switchgrass</u>			200 lbs	2 acres	73 lbs	E.4	
<u>Paspalum notatum</u>	131						
<u>Wilmington bahiagrass</u>			2000 lbs	30 acres	2550 lbs	E.7	
<u>Paspalum notatum</u>	F.						
<u>Wilmington bahiagrass</u>			50 lbs	1 1/2 acre	75 lbs	E.7	
<u>Trifolium nigrescens</u>							
<u>Ball clover</u>			1000 lbs	6 acres	850 lbs	A.3 & E.6	
<u>Trifolium vesiculosum</u>							
<u>Meechee Arrowleaf clover</u>			800 lbs	9 acres	280 lbs	E.6	
<u>Trifolium vesiculosum</u>	F						
<u>Meechee Arrowleaf clover</u>			1000 lbs	6 acres	3600 lbs	E.6	



PLANTS FOR FIELD PLANTINGS AND FLOOD PREVENTION USE

Species	MS No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Ampelopsis arborea</u>	3691	---	---	50' row	5 plants	A.1
<u>Ampelopsis brevipedunculata</u>	2665	---	2000 plants	900' row	8600 plants	A.1
<u>Bumelia lanuginosa</u>	3289	---	---	50' row	---	B.5
<u>Bumelia lycioides</u>	3692	---	---	21' row	---	B.5
<u>Campsis radicans</u>	3800	---	---	-	230 plants	A.1
<u>Calliocrpa americana</u>	3768	---	---	300' row	---	C.1, C.3, C.4
<u>Castanea alnifolia</u>	4	---	800 plants	1050' row	2200 plants	C.6
<u>Castanea mollissima</u>	Mixed	---	5000 plants	---	8 plants	C.6
<u>Castanopsis schlerophylla</u>	3171	---	---	---	30 plants	C.6
<u>Castanea sp.</u>	3690	---	---	20' row	---	C.6
<u>Cleyera japonica</u>	3693	---	---	50' row	---	B.1 & B.5
<u>Cynodon dactylon</u>	Turfco	---	300 sq.Yds.	---	288 sq.Yds.	B.3
<u>Elaeagnus umbellata</u>	430	---	600 plants	150' row	---	C.7
<u>Elaeagnus umbellata</u>	432	---	2500 plants	150' row	17 plants	C.7
<u>Elaeagnus umbellata</u>	1723	---	---	600' row	6 plants	C.7
<u>Euonymus bungeanus</u>	2945	---	100 plants	60' row	---	C.1 & C.7
<u>Hemerocallis fulva</u>	2165	---	---	---	10062 plants	B.5



Species	MS No.	PI or Other No.	Amount Planned Plants (ea.) -	Area in Production	Amount Harvested Plants (ea.)	Purpose of Increase
<u>Ilex decidua</u>	3608	-	---	50' row	---	B.5 & C.3
<u>Ilex vomitoria</u>	2757	---	---	15' row	---	B.5 & C.3
<u>Lonicera maackii</u>	2161		3000 Plants	600' row	1075 plants	B.1 & C.7
<u>Malus buccata himalaica</u>	3221		---	36' row	---	B.2 & C.7
<u>Malus hupehensis</u>	150		4700 plants	900' row	2575 plants	B.2 & C.7
<u>Malus sargentii</u>	3504		---	5' row	---	B.2 & C.7
<u>Malus sikkimensis</u>	3503		---	12' row	---	B.2 & C.7
<u>Panicum hemitomom</u>	2138		---	3/4 acre	13,100 plants	A.1 & D.1
<u>Maidencane</u>			---	300' row	5 plants	A.1
<u>Parthenocissus quinquefolia</u>	3694		---	1000 sq ft.	---	A.1 & D.1
<u>Paspalum distichum</u>			---			
<u>Knotgrass</u>		Mixed				
<u>Phyllostachys blissii</u>			As requested	300' row	860 plants	B.2
<u>Blisset bamboo</u>	499					
<u>Phyllostachys meyeri</u>			as requested	300' row	800 plants	B.2
<u>Meyer's bamboo</u>	498					
<u>Phyllastachys sp.</u>	500		as requested	300' row	---	B.2
<u>(Hardy bamboo)</u>						
<u>Pinus sp.</u>	3518		---	50' row	---	D.2
<u>Pinus sp.</u>	3519		---	60' row	---	D.2
<u>Pyrus sp.</u>	3281		10 Plants	12' row	---	C.7
<u>Pyrus sp.</u>	3305		---	18' row	---	C.7
<u>Quercus acutissima</u>	3		1600 plants	75' row	190 plants	C.3 & C.6



Species	MS No.	Pl or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of *
<u>Quercus myrsinaefolia</u>	6		100 plants	--	18 plants	B.5 & C.6
<u>Quercus pumila</u>	2240		---	20' row	---	C.3 & C.6
<u>Rhamnus caroliniana</u>	3290		---	50' row	---	B.5 & C.7
<u>Rhamnus dahuricus</u>	3576		---	36' row	---	B.5 & C.7
<u>Rhamnus utilis</u>	3577		---	18' row	---	B.5 & C.7
<u>Sapium sebiferum</u>	3480		---	60' row	720 plants	B.5
<u>Viburnum rufidulum</u>	3291		---	21' row	---	B.5
<u>Vitis rotundifolia</u>	3695		---	50' row	---	C.6 & C.7





## PLANTS FOR USE ON CENTRE AND OTHER SPECIAL TESTS

Species	MS No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Harvested Plants (ea.)	Purpose of *
<u>Cotoneaster racemiflora</u>	2936A		---	300' row	15 plants	B.5
<u>Myrica carolinensis</u>	3688		---	50' row	---	A.1
<u>Myrica cerifera</u>	3685		---	50' row	---	A.1
<u>Myrica cerifera</u>	3686		---	50' row	---	A.1
<u>Myrica cerifera</u>	3687		---	50' row	---	A.1
<u>Myrica cerifera</u>	3699		---	50' row	---	A.1
<u>Myrica cerifera</u>	3700		---	50' row	---	A.1
<u>Myrica cerifera</u>	3706		---	50' row	---	A.1
<u>Myrica cerifera</u>	3711		---	50' row	---	A.1
<u>Myrica cerifera</u>	3714		---	50' row	---	A.1
<u>Myrica cerifera</u>	3718		---	50' row	---	A.1
<u>Myrica cerifera</u>	3720		---	50' row	---	A.1
<u>Myrica cerifera</u>	3722		---	50' row	---	A.1
<u>Myrica cerifera</u>	3723		---	50' row	---	A.1
<u>Myrica gale</u>	3773		---	50' row	---	A.1
<u>Myrica gale</u>	3774		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3702		---	50' row	---	A.1



Species	Ms No.	PI or Other No.	Amount Planned Plants (ea.)	Area in Production	Amount Har-ested Plants (ea.)	Purpose of Increase
<u>Myrica pennsylvanica</u>	3703		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3704		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3705		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3707		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3708		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3709		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3710		---	50' row	---	A1
<u>Myrica pennsylvanica</u>	3713		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3715		0--	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3716		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3717		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3719		---	50' row	---	A.1
<u>Myrica pennsylvanica</u>	3721		---	50' row	---	A.1
<u>Myrica</u> sp.	3689		---	50' row	---	A.1
<u>Prunus caroliniana</u>	3186		100 plants	110' row	50 plants	B.2
<u>Prunus caroliniana</u>	3481		---	225' row	4 Plants	B.2

\* Listing of Problems begin on following page:



PROBLEMS requiring new plants are many and diverse. They are grouped in five categories, with problems in category A being given the highest priority and those in category E the lowest. Within each category the problems are arranged in order of importance; number one being the most important and the last problem the least important.

**A. Problems Related to Sediment Producing Areas:**

1. Controlling streambank erosion with vegetation.
2. Stabilizing gully erosion with vegetation.
3. Stabilizing sheet eroding sites with vegetation.
4. Controlling erosion on road embankments and cut banks with vegetation.
5. Vegetating mine spoil dumps.
6. Stabilizing water disposal areas with vegetation.
7. Controlling erosion on filled areas with vegetation.

**B. Problems Related to Recreation and Improvement of the Environment:**

1. Assemble information on the culture and management of plants needed for recreation and beautification purposes.
2. Screen plant materials to block unsightly scenes from public view.
3. Ground cover plants in areas with heavy traffic.
4. Erosion controlling plants that will withstand heavy foot traffic in shaded areas are needed for parks, playgrounds and other recreational areas.
5. Ground cover plants to control erosion and improve the appearance of the area.

6. Assemble information about plants that are adapted to sites that have been contaminated with industrial wastes.
7. Winter annual grass other than ryegrass for recreational areas with heavy foot traffic.

C. Problems Related to Wildlife Habitat Improvement:

1. Quail Food and Cover. New plants are needed to provide cover and food on problem sites such as eroding calcareous soils and mine spoil areas and utility rights-of-way. This last plant must be unacceptable to grazing animals.
2. Waterfowl Food. New plants are needed to fit the wide variety of conditions on sites frequented by waterfowl. Plants are needed that are easy to maintain and manage and which will produce large amounts of seed or green plant food.
3. Deer Browse. Perennial plants are needed to improve the winter deer browse.
4. Wild Turkey Food. There is a need for a perennial plant that will produce seed and fruit to improve wild turkey ranges.
5. Dove Food. Perennial seed producing plants would be desirable to replace annual crops which now leave the soil open to erosion for a short time each year.
6. Trees and shrubs to provide food for squirrels.
7. Trees or shrubs to provide seeds or fruit for songbirds.

D. Problems Related to Soils or Site Conditions:

1. Wave action erosion control in water impoundment structures with vegetation.
2. Ground cover plants for mine spoil areas.
3. Controlling wind erosion on croplands with vegetation.
4. Salt tolerant plants to control shoreline erosion along the Gulf Coast.
5. Salt and/or alkaline tolerant plants to control erosion on either calcareous soils or soil contaminated with salt.
6. Ground cover plants for eroding soil that are very acid.

E. Problems Related to Grassland Conservation:

1. Improving soil protection and forage production with a cool season pasture plant.
2. Improving soil cover and forage production on low fertility soils or sites.
3. Improving soil cover and forage production on wet soils or sites.
4. Improving soil cover and forage production on wet soils or sites.
5. Improving range management practices by assembling information on the growth of range plants.
6. Improving soil cover and forage production with adapted legumes.
7. Improving soil cover and warm season forage production on droughty soils.
8. A warm season forage plant that can withstand flooding.
9. A perennial grass to prevent soil erosion and provide high quality frosted forage for winter grazing.
10. A leguminous plant for early fall grazing.
11. A high yielding hay plant that can be established from seed.





COMBINE SETTINGS FOR SEED HARVEST:

Echinochloa frumentacea  
Chiwapa japanese millet

Cylinder speed	-	1200 -- 1200 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/3 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Glycine ussuriensis  
Wild reseeding soybean

Cylinder speed	-	960 RPM
Cylinder to concave spacing	-	5/8" - 1 1/2"
Fan valves	-	Open
Adj. chaffer	-	1/2 open

Lespedeza virgata  
Spreading lespedeza

Cylinder speed	-	1000 - 1200 RPM
Cylinder to concave spacing	-	1 1/4" - 1 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Panicum virgatum  
Switchgrass

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	3/8" -- 1 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/4 to 3/8 open
Finishing sieve	-	9/64"

Paspalum notatum  
Wilmington bahiagrass

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing	-	3/16" - 1 1/4"
Fan valves	-	1/4 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

COMBINE SETTINGS FOR SEED HARVEST -- Continued

Trifolium vesiculosum

Meechee arrowleaf clover

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing	-	1 1/4" - 1 1/2"
Fan valves	-	1 1/3 open
Adj. chaffer	-	1 1/2 open
Finishing sieve	-	7/64"

NOTES AND SPECIAL PROBLEMS

Many of the seeds of woody species failed to germinate or germinated very poorly in 1972. Fall planting in November or December 1971 was impossible. These seeds were planted in April 1972, and some had received inadequate stratification.

Crabgrass infestation in the seed fields of 'Wilmington' bahiagrass was a real problem. The pre-emergence herbicide simazine gave poor control of this weed this year, although it has given good control most years.

PURE SEED AND GERMINATION PERCENTAGES OF SEED LOTS TESTED:

<u>Species</u>	<u>MS No.</u>	<u>% Germination</u>	<u>% Hard Seed</u>	<u>% Firm Seed</u>	<u>% Pure Seed</u>
<u>Eragrostis curvula</u> Weeping lovegrass	F.P.	76.0	0.0	0.0	99.10
<u>Festuca arundinacea</u> Ky 31 fescue	1601-	93.0	0.0	0.0	98.45
<u>Glycine ussuriensis</u> Wild reseeding soybean	128	74.0	0.0	0.0	97.27
<u>Lespedeza cuneata</u> <u>Sericea lespedeza</u>	---	79.0	4.0	0.0	99.19
<u>Panicum virgatum</u> Pangburn switchgrass	155	39.5	0.0	0.0	95.15
<u>Paspalum notatum</u> Wilmington bahiagrass	Foundation	94.0	0.0	0.0	93.95
<u>Trifolium nigrescens</u> Ball clover	---	18.5	73.0	0.0	97.40
<u>Trifolium vesiculosum</u> Meechee Arrowleaf clover	---	34.5	53.0	0.0	99.42
<u>Trifolium vesiculosum</u> Meechee Arrowleaf clover	Foundation	28.0	63.0	0.0	99.51

## INFORMATION

A number of articles were written in local newspapers in 1972 describing work done by the Center. These are too numerous to mention, and copies of some of these articles are not available. All of the following articles written in 1972 concern work done by the Coffeeville Plant Materials Center.

1. Manning, Earl. 1972. The Search for New and Better Plants. The Progressive Farmer. Vol. 87, No. 9. p 24.
2. Price, Vincent J. 1972. The Economics of New Plants. Soil Conservation. Vol. 38. pp 67-70.
3. No author is listed for the following article.  
-1972. Sawtooth Oak Feeds Wildlife. The Progressive Farmer. Vol. 87. No. 3. p 76A.
4. The following article appeared in the Coffeeville Courier, July 20, 1972. "Local Plant Materials Center Seeks Plants to Fill All Needs; is Visited by Many States."
5. The following article appeared in the Clarion Ledger (Jackson, Miss.) on February 2, 1972, and in other newspapers.  
"New Grass Covers. Deep Gullies Filled, Football Field Built."

## VISITATIONS

On July 7, 1972, a field day was held at the Plant Materials Center. Approximately 250 people from Alabama, Arkansas, Louisiana, Mississippi, and Tennessee attended.

Various other smaller groups visited the Center during the year. These included students in summer training programs, a ladies garden club group, and persons with only a personal interest in the Center.

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Acroceras macrum	364376	3810	PS	-	7	7	-	Oct. Aug.	10"
Acroceras macrum	364375	3811	PS	-	3	5	-		22"
Agropyron caninum	297868	3375	Died						
Agropyron caninum	314612	3376	PS	-	7	9	1	-	12"
Agropyron caninum	314615	3377	PS	-	7	9	1	-	10"
Agropyron caninum	314616	3378	PS	-	7	9	1	-	12"
Agropyron caninum	314628	3379	Died						
Agropyron caninum	314629	3380	Died						
Agropyron caninum	172364	3453	PS	-	9	9	1	None	6"
Agropyron caninum	235086	3455	PS	-	9	9	1	-	6"
Agropyron caninum	253290	3457	Died						
Agropyron ciliare	276395	3458	Died						
Agropyron ciliatiflorum	229426	3459	Died						
Agropyron elongatum	142012	3011	PS	-	5	5	1	July	12"
Agropyron elongatum	98526	3012	PS	-	9	9	1	July	10"
Agropyron elongatum	150123	3013	PS	-	5	5	1	July	10"
Agropyron elongatum	BN 6096-62	3016	PS	-	5	5	1	July	10"
Agropyron elongatum	283164	3019	PS	-	7	5	1	July	10"
Agropyron elongatum	297871	3020	PS	-	5	5	1	July	12"
Agropyron elongatum	315352	3021	PS	-	7	7	1	July	10"
Agropyron elongatum		3023	PS	-	3	3	1	July	14"
Agropyron elongatum	98526	3028	PS	-	7	7	1	Aug.	10"
Agropyron elongatum	179169	3029	PS	-	7	7	1	July	8"
Agropyron elongatum	204383	3030	PS	-	5	7	1	July	10"
Agropyron elongatum	205279	3031	PS	-	5	5	1	July	10"
Agropyron elongatum	206622	3032	PS	-	7	5	1	Aug.	12"



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Agropyron elongatum	206623	3033	PS	-	3	3	1	July	14"
Agropyron elongatum	206624	3034	PS	-	7	7	1	July	8"
Agropyron elongatum	222958	3035	PS	-	3	5	1	July	12"
Agropyron elongatum	249144	3038	PS	-	3	5	1	July	12"
Agropyron elongatum	251143	3039	PS	-	5	3	1	July	12"
Agropyron elongatum	255146	3040	PS	-	5	3	1	July	12"
Agropyron elongatum	255148	3041	PS	-	7	5	1	July	8"
Agropyron elongatum	255149	3042	PS	-	7	5	1	July	10"
Agropyron pectiniforme	312438	3382	Died						
Agropyron pectiniforme	315357	3383	Died						
Agropyron pectiniforme	315358	3384	Died						
Agropyron pectiniforme	273735	3461	Died						
Agropyron pectiniforme	315360	3463	Died						
Agropyron pectiniforme	BN 18616	3597	PS	-	5	5	1	July	10"
Agropyron pectiniforme	BN 18617	3598	PS	-	7	7	1	July	10"
Agropyron pectiniforme	BN 18725	3599	PS	-	7	5	1	July	6"
Agropyron smithi	BN 8473-67	3014	PS	-	7	7	1	July	10"
Agropyron smithi	BN 12002-60	3015	PS	-	5	7	1	July	6"
Agropyron smithi	BN 16229-64	3018	PS	-	7	7	1	July	12"
Agropyron smithi	BN 6105-64	3022	PS	-	7	7	1	July	10"
Agropyron smithi	A-13081	3024	PS-	-	5	5	1	July	12"
Agropyron smithi	C-27	3025	PS	-	5	5	1	July	10"
Agropyron smithi	15614	3026	PS	-	5	5	1	July	12"
Agropyron striatum	269891	3386	Died						
Agropyron striatum	207452	3464	Died						
Agropyron striatum	207453	3465	Died						
Agropyron striatum	223235	3466	Died						
Ajuga sp..		3681	PS	-	3	9	-	-	8"
Arundinaria Michx. sp.	S 2410	3526	PS	-	5	9	-	-	36"
Arundinaria tecta	TN 71-2	3525	PS	-	5	9	-	-	30"
Arundo donax		3606	Died						





Species	PI or Other No.	MS No.	Growth Type	Seed. Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matur- ity	Plant Height
Bothriochloa caucasica	PMT 588	2913	PB	-	5	5	1	July	18"
Bothriochloa glabra	364394	3812	PB	5	5	5	-	Oct.	24"
Bothriochloa insculpta	364396	3813	PB	5	7	7	-	Aug.	12"
Bothriochloa insculpta	364397	3814	Died						
Bothriochloa intermedia	PMT 1062	2912	PB	-	3	3	1	July	24"
Bothriochloa intermedia	PMT 1065	2915	PB	-	1	3	1	Aug.	36"
Brachypodium pinnatum	206682	262	PB	-	7	5	1	July	8"
Brachypodium pinnatum	185135	640	PB	-	5	3	1	July	12"
Brachypodium pinnatum	206545	641	PB	-	5	5	1	July	12"
Brachypodium pinnatum	268325	2249	PB	-	7	5	1	July	10"
Brachypodium pinnatum	206547	3323	PB	-	3	5	1	July	10"
Brachypodium pinnatum	206548	3324	PB	-	5	5	1	July	14"
Brachypodium pinnatum	BN 9156	3325	PB	-	5	7	1	July	12"
Brachypodium pinnatum	230112	3326	PB	-	7	9	1	June	10"
Brachypodium pinnatum	253298	3328	PB	-	5	5	1	June	12"
Brachypodium pinnatum	172692	3329	PB	-	1	5	1	July	14"
Brachypodium pinnatum	230113	3330	PB	-	5	5	1	June	12"
Brachypodium pinnatum	206441	3331	PB	-	5	5	1	July	8"
Brachypodium pinnatum	240151	3332	PB	-	5	5	1	July	12"
Brachypodium pinnatum	268219	3333	PB	-	7	7	1	June	8"
Brachypodium pinnatum	BN 15859	3335	PB	-	3	5	1	June	16"
Brachypodium pinnatum	316169	3336	PB	-	5	5	1	June	12"
Brachypodium pinnatum	325213	3337	Discarded						
Brachypodium pinnatum	325216	3338	PB	-	5	9	1	-	10"
Brachypodium pinnatum	206620	3339	PB	-	3	5	1	June	12"
Brachypodium pinnatum	206650	3340	PB	-	5	5	1	July	10"
Brachypodium pinnatum	206677	3341	PB	-	3	5	1	July	11"
Brachypodium pinnatum	229676	3342	PB	-	7	7	1	July	8"
Brachypodium pinnatum	230241	3343	PB	-	3	9	1	July	12"
Brachypodium pinnatum	249722	3344	PB	-	3	5	1	July	12"
Brachypodium sylvaticum	206546	642	PB	-	5	5	1	July	12"



Species	PI or Other No.	MS No.	Growth Type	Seed. Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Brachypodium sylvaticum	171650	3345	Died	-	3	3	1	July	12"
Brachypodium sylvaticum	173700	3346	Died	-	5	5	1	July	10"
Brachypodium sylvaticum	237792	3347	PB	-	7	7	1	July	10"
Brachypodium sylvaticum	251102	3348	PB	-	7	7	1	July	10"
Brachypodium sylvaticum	268222	3349	PB	-	3	5	1	July	12"
Brachypodium sylvaticum	287787	3350	PB	-	7	7	1	July	12"
Brachypodium sylvaticum	223669	3351	Died	-	7	5	1	Aug.	10"
Brachypodium sylvaticum	204863	3352	PB	-	5	7	1	July	10"
Brachypodium sylvaticum	204865	3353	PB	-	7	7	1	July	10"
Brachypodium sylvaticum	172383	3354	PB	-	3	5	1	July	12"
Brachypodium sylvaticum	206619	3355	PB	-	5	5	1	July	12"
Brachypodium sylvaticum	269812	3356	Died	-	5	5	1	June	16"
Bromus inermis	315380	2956	PB	-	3	3	1	July	16"
Bromus inermis	314071	2957	PB	-	3	3	1	July	16"
Bromus inermis	AM 1360	3181	PB	-	7	9	1	July	06"
Bromus riparius	251693	3542	PB	-	7	7	1	July	06"
Bromus riparius	297887	3543	PB	-	7	7	1	July	08"
Bromus riparius	297889	3544	PB	-	7	7	1	July	07"
Bromus riparius	314513	3546	PB	-	7	9	1	July	08"
Bromus riparius	314514	3547	PB	-	7	9	1	July	06"
Bromus riparius	314515	3548	PB	-	9	9	1	July	06"
Bromus riparius	314516	3549	PB	-	7	9	1	July	06"
Bromus riparius	315372	3550	PB	-	7	9	1	July	06"
Bromus riparius	315380	3551	PB	-	7	9	1	July	07"
Bromus riparius	315386	3552	PB	-	7	9	1	July	07"
Bromus riparius	315387	3553	PB	-	7	9	1	July	07"
Bromus riparius	315388	3554	PB	-	7	9	1	July	07"
Bromus riparius	315389	3555	PB	-	9	9	1	July	05"
Bromus riparius	315390	3556	PB	-	7	9	1	July	05"
Bromus riparius	315391	3557	PB	-	7	9	1	July	06"
Bromus riparius	315392	3558	PB	-	9	9	1	July	06"
Bromus riparius	315393	3559	PB	-	7	9	1-	July	07"



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
<i>Bromus riparius</i>	315394	3560	PB	-	7	9	1	July	08"
<i>Bromus riparius</i>	315397	3561	PB	-	7	9	1	July	07"
<i>Bromus riparius</i>	315676	3562	PB	-	9	9	1	-	06"
<i>Bromus cf. riparius</i>	283197	3563	PB	-	9	9	1	-	05"
<i>Bromus unioloides</i>	316176	2697	PB	-	7	3	1	June	12"
<i>Bromus unioloides</i>	316177	2698	PB	-	5	3	1	June	12"
<i>Bromus willdenowii</i>		2699	PB	-	5	5	1	June	12"
<i>Cajanus cajan</i>	218066	3809	AB	5	5	7	10	Nov.	18"
<i>Calamagrostis pseudophragmites</i>	206883	3360	PS	-	5	7	3	July	24"
<i>Calamagrostis pseudophragmites</i>	220584	3361	PS	-	5	7	1	July	24"
<i>Calamagrostis pseudophragmites</i>	220586	3363	Died						
<i>Calamagrostis pseudophragmites</i>	222041	3364	PS	-	3	7	1	July	30"
<i>Clenstachne sorghoides</i>	368246	3769					10		
<i>Cynodon dactylon</i> 'No-Mow'		2643	PS	-	5	9	1	-	04"
<i>Cynodon dactylon</i> 'Santa Ana'		3615	PS	-	5	9	1	-	06"
<i>Cytisus canariensis</i>	BN 19688	3803	P	-	5	9	-	-	12"
<i>Dactylis glomerata</i>	BN 19167-67	3027	PB	-	3	5	1	June	12"
<i>Corcynium rectum</i>	274460	3782	NG						
<i>Echinochloa holubii</i>	364795	3815	VD						
<i>Echinochloa pyramidalis</i>	365509	3816	VD						
<i>Eragrostis curvula</i>		3437	PB	-	3	5	1	July	24"
<i>Eragrostis curvula</i>	PMT 603	3389	PB	-	3	5	1	July	24"
<i>Eragrostis curvula</i>	PMT 604	3446	PB	-	3	5	1	July	24"
<i>Eragrostis curvula</i>	PMT 718	3447	PB	-	3	3	1	July	24"
<i>Eragrostis curvula</i>	PMT 729	3448	PB	-	3	3	1	July	24"
<i>Eragrostis curvula</i>		3484	PB	-	3	7	1	July	24"
<i>Eragrostis curvula</i>		3485	PR	-	3	1	1	July	30"
<i>Erichloa borumensis</i>	364837	3817	PS	3	3	7	-	Nov.	24"
<i>Festuca pallenscens</i>	269647	3470	Died						
<i>Fingerhuthia sesleriaeformis</i>	196359	3409	PB	-	3	7	1	July	14"
<i>Fingerhuthia sesleriaeformis</i>	203354	3410	PB	-	3	5	1	July	16"
<i>Fingerhuthia sesleriaeformis</i>	299968	3411	PB	-	3	5	1	July	16"
<i>Fingerhuthia sesleriaeformis</i>	299969	3412	PB	-	3	3	1	July	16"
<i>Fingerhuthia sesleriaeformis</i>	299970	3413	PB	-	3	5	1	July	16"



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
<i>Helianthus maximiliani</i>	PI-1564-70	3514	PB	-	1	5	1	Oct.	72"
<i>Helianthus mollis</i>	PM-k 1410	3373	PS	-	3	3	1	Sept.	54"
<i>Helianthus</i> sp..		3374	Discarded						
<i>Hemarthria altissima</i>	299993	2916	PS	-	1	9	1	-	24"
<i>Hemarthria altissima</i>	299995	2919	PS	-	5	9	3	-	24"
<i>Hemarthria altissima</i>	364344	3647	PS	-	5	9	-	-	12"
<i>Hemarthria altissima</i>	364862	3648	PS	-	5	9	-	-	12"
<i>Hemarthria altissima</i>	364864	3649	PS	-	7	9	-	-	10"
<i>Hemarthria altissima</i>	364866	3651	PS	-	1	9	-	-	24"
<i>Hemarthria altissima</i>	364867	3652	PS	-	3	9	-	-	08"
<i>Hemarthria altissima</i>	364868	3653	PS	-	7	9	-	-	06"
<i>Hemarthria altissima</i>	364869	3654	PS	-	5	9	-	-	08"
<i>Hemarthria altissima</i>	364870	3655	PS	-	1	9	-	-	20"
<i>Hemarthria altissima</i>	364873	3657	PS	-	5	9	-	-	18"
<i>Hemarthria altissima</i>	364875	3658	PS	-	3	9	-	-	36"
<i>Hemarthria altissima</i>	364876	3659	PS	-	5	9	-	-	18"
<i>Hemarthria altissima</i>	364877	3660	PS	-	5	9	-	-	18"
<i>Hemarthria altissima</i>	364878	3661	PS	-	5	9	-	-	18"
<i>Hemarthria altissima</i>	364879	3662	PS	-	7	9	-	-	08"
<i>Hemarthria altissima</i>	364881	3664	PS	-	7	9	-	-	08"
<i>Hemarthria altissima</i>	364882	3665	PS	-	5	9	-	-	12"
<i>Hemarthria altissima</i>	364886	3666	Died						
<i>Hemarthria altissima</i>	364887	3667	PS	-	5	9	-	-	15"
<i>Hemarthria altissima</i>	364889	3668	PS	-	5	9	-	-	12"
<i>Hemarthria altissima</i>	364891	3669	PS	-	3	9	-	-	15"
<i>Hemerocallis</i> sp.,		2164	PS	-	3	9	1	-	36"
<i>Hemerocallis</i> sp.,	AM 1319	2165	PS	-	1	9	1	-	36"
<i>Hemerocallis</i> sp.,		3209	PS	-	3	9	1	-	30"
<i>Hemerocallis</i> sp.,		3630	PS	-	5	9	1	-	30"
<i>Indigofera leptosepala</i>	PMT 1051	2679	PB	3	7	-	-	-	08"
<i>Indigofera miniata</i>	PMT 2535-71	3798	PB	3	7	7	-	Oct.	04"
<i>Indigofera pseudotinctoria</i>	BN 10774	2952	PB	-	5	3	1	Sept.	24"
<i>Iris albispirtus</i>	F 3808	2357	PB	-	5	7	1	July	24"
<i>Iris</i> sp.,		2234	PB	-	7	9	1	June	30"





Species	PI or Other No.	MS No.	Growth type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
<i>Iris</i> sp.,		2235	PS	-	5	9	1	June	30"
<i>Iris</i> sp.,		2236	PB	-	7	9	1	July	30"
<i>Ischaemum arcuatum</i>	365510	3818	PS	5	5	7	-	Oct.	18"
<i>Lathyrus latifolia</i>		3261	PB	-	5	5	1	July	48"
<i>Leersia aquatica</i>		3176	Died						
<i>Leersia hexandra</i>	364346	3670	PS	5	7	7	-	Sept.	18"
<i>Lepedeza inshanica</i>	318640	3571	Died						
<i>Lepedeza inshanica</i>	349421	3572	Died						
<i>Lepedeza tomentosa</i>	318641	3529	Died						
<i>Lepedeza virginicus</i>		3166	Died						
<i>Lepedeza x divaricata</i>	349420	3570	Died						
<i>Liriope graminifolia</i>	EN 10762	2577	PS	-	1	3	1	Oct.	10"
<i>Liriope muscari v variegata</i>		2588	PB	-	3	9	1	Aug.	12"
<i>Liriope</i> sp.,	EN 11069	2578	PS	-	3	5	1	Oct.	12"
<i>Lotus corniculatus</i>	G 18984	3223	PB	-	7	5	1	Oct.	08"
<i>Lotus corniculatus</i>	G 18986	3224	PB	-	3	3	1	July	10"
<i>Lotus corniculatus</i>	G 18987	3225	PB	-	Died				
<i>Lotus corniculatus</i>	G 18989	3226	PB	-	1	5	1	July	9 1/2"
<i>Lotus corniculatus</i>	273937	3227	PB	-	Died				
<i>Lotus corniculatus</i>	296318	3228	PB	-	Died				
<i>Lotus corniculatus</i>	316266	3229	PB	-	Died				
<i>Lotus corniculatus</i>	316267	3230	PB	-	3	5	1	July	10"
<i>Lotus corniculatus</i>	316268	3231	PB	-	Died				
<i>Lotus corniculatus</i>	316269	3232	PB	-	Died				
<i>Lotus corniculatus</i>	322555	3234	Discarded						
<i>Lotus corniculatus</i>	322556	3235	Died						
<i>Lotus corniculatus</i>	329246	3236	Died						
<i>Lotus corniculatus</i>	331177	3237	Died						
<i>Lotus corniculatus</i>		3610	Died						
<i>Lotus pedunculatus</i>	300015	3240	Died						
<i>Medicago arborea</i>	368171	3770	PB	5	7	-	-	Died	06"
<i>Medicago arborea</i>	368177	3771	PB	5	7	-	-	Died	06"
<i>Medicago arborea</i>	368165	3772	PB	5	7	-	-	Died	06"



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Panicum coloratum	300039	2543	P3	-	5	3	1	July	16"
Panicum coloratum	300041	2544	PB	-	Died				
Panicum coloratum	315721	3414	PB	-	3	3	1	Aug.	30"
Panicum coloratum	166400	3416	PB	-	5	3	1	Aug.	24"
Panicum coloratum	185548	3418	Died						
Panicum coloratum	185550	3419	PS	-	3	3	1	Aug.	24"
Panicum coloratum	188932	3420	PB	-	3	3	1	Aug.	30"
Panicum coloratum	196360	3422	PB	-	5	3	1	July	24"
Panicum coloratum	196361	3423	PB	-	5	5	1	Aug.	24"
Panicum coloratum	196362	3424	PB	-	3	3	1	July	24"
Panicum coloratum	253243	3429	PB	-	5	5	1	July	30"
Panicum coloratum	253247	3430	PB	-	3	5	1	Aug.	30"
Panicum coloratum	BN 12322-59	3433	PB	-	3	3	1	July	24"
Panicum coloratum	207993	3725	PB	5	5	3	-	Aug.	14"
Panicum coloratum	207995	3726	PB	5	5	5	-	Aug.	10"
Panicum coloratum	207996	3727	PB	5	5	5	-	Aug.	16"
Panicum coloratum	208000	3728	PB	3	5	3	-	Aug.	18"
Panicum coloratum	208003	3729	PB	3	5	3	-	Aug.	16"
Panicum coloratum	208004	3730	PB	5	3	3	-	Aug.	14"
Panicum coloratum	208005	3731	PB	5	5	5	-	Aug.	14"
Panicum coloratum	208943	3732	PB	3	5	3	-	Aug.	24"
Panicum coloratum	209002	3733	PB	3	3	5	-	Aug.	30"
Panicum coloratum	353249	3734	PB	5	3	5	-	Aug.	30"
Panicum coloratum	255332	3735	PB	3	3	5	-	Aug.	24"
Panicum coloratum	255333	3736	PB	3	3	3	-	Aug.	30"
Panicum coloratum	255235	3737	PB	3	3	3	-	Aug.	28"
Panicum coloratum	263602	3738	PB	3	3	3	-	Aug.	24"
Panicum coloratum	263603	3739	PB	3	3	5	-	Aug.	36"
Panicum coloratum	263604	3740	PB	3	3	3	-	Aug.	24"
Panicum coloratum	263605	3741	PB	5	5	5	-	Aug.	24"
Panicum coloratum	263606	3742	PB	5	5	5	-	Aug.	24"
Panicum coloratum	263607	3743	PB	5	5	5	-	Aug.	30"
Panicum coloratum	277963	3744	PB	3	3	3	-	Aug.	36"
Panicum coloratum	298988	3745	PB	3	5	5	-	Aug.	14"



Species	Pi or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Panicum coloratum	299427	3746	PB	3	3	3	-	Aug.	36"
Panicum coloratum	300042	3747	PB	3	3	5	-	Aug.	18"
Panicum coloratum	306628	3748	PB	3	3	5	-	Aug.	16"
Panicum coloratum	BN 8289	3180	PB	-	3	3	1	Aug.	36"
Panicum hemitomon		2908	PS	3	3	9	1	-	30"
Panicum hemitomon		3285	PS=	-	3	9	1	-	12"
Panicum hemitomon		3631	PS	-	5	9	1	-	24"
Panicum hians	Am 1684	2909	PS	-	5	3	1	June	12"
Panicum makarikariense	184776	3749	PB	3	3	3	-	Aug.	24"
Panicum makarikariense	203520=	3750	PB	3	3	3	-	Aug.	30"
Panicum makarikariense	208998	3751	PB	3	3	3	-	Aug.	24"
Panicum makarikariense	210692	3180	PB	-	3	3	1	Aug.	36"
Panicum makarikariense	295647	3753	PB	3	3	3	-	Aug.	24"
Panicum makarikariense	295649	3754	PB	5	3	5	-	Aug.	24"
Panicum maximum		3283	AB	1	1	5	-	Sept.	60"
Panicum maximum	364963	3671	AB	3	3	5	-	Aug.	24"
Panicum sp.,		3284	PB	-	7	5	1 =	Oct.	10"
Panicum stapfianum	300058	2727	PB	-	5	3	1	July	18"
Panicum stapfianum	178257	3438	PB	-	3	3	1	July	18"
Panicum stapfianum	185547	3439	PB	-	5	3	1	July	24"
Panicum stapfianum	190327	3440	PB	-	5	3	1	July	18"
Panicum stapfianum	300059	3444	PB	-	5	3	1	July	24"
Panicum stapfianum	208012	3755	PB	3	3	5	-	Aug.	24"
Panicum stapfianum	208013	3756	PB	3	5	3	-	Aug.	18"
Panicum stapfianum	208014	3757	PB	3	3	3	-	Aug.	16"
Panicum stapfianum	208015	3758	PB	3	3	3	-	Aug.	24"
Panicum stapfianum	208016	3759	PB	5	5	5	-	Aug.	16"
Panicum stapfianum	208017	3760	PB	5	5	5	-	Aug.	16"
Panicum stapfianum	208107	3761	NG						
Panicum stapfianum	208176	3762	PB	5	7	5	-	Aug.	14"
Panicum stapfianum	208246	3763	NG						
Panicum stapfianum	208247=	3764	PB	3	5	3	-	Aug.	16"
Panicum stapfianum	208400	3765	PB	5	5	3	-	Aug.	14"
Panicum stapfianum	208401	3766	PB	3	5	5	-	Aug.	14"





Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Panicum stapfianum	208102	3767	PB	5	7	5	-	Aug.	12"
Pappophorum sp.	331155	2998	PB	-	5	5	3	Aug.	30"
Paspalum commersonii	364977	3673	PS	-	7	9	1	Aug.	06"
Paspalum commersonii	364979	3674	PS	-	5	9	1	Aug.	06"
Paspalum commersonii	364980	3675	PS	-	7	9	1	July	04"
Paspalum commersonii	365511	3680	PS	-	7	9	1	July	04"
Paspalum commersonii	364978	3712	Died	-	-	-	-	-	-
Paspalum cromoerhizon	276242	1985	PS	-	7	7	1	July	18"
Paspalum cromoerhizon	310059	3213	PS	-	3	7	1	July	16"
Paspalum cromoerhizon	310061	3251	PS	-	3	3	1	July	18"
Paspalum cromoerhizon	BN 16632-65	3252	PS	-	1	7	1	Aug.	18"
Paspalum cromoerhizon	BN 16638-69	3253	PS	-	5	7	1	July	18"
Paspalum distichum	364981	3676	PS	-	5	9	3	July	06"
Paspalum distichum	364982	3677	PS	-	5	9	3	July	06"
Paspalum distichum	364983	3678	PS	-	5	9	1	July	06"
Paspalum giganteum	AM 97	3282	PS	5	5	7	-	Oct.	12"
Paspalum minus		3263	PS	-	7	7	1	Aug.	08"
Pennisetum clandestinum	364350	3819	AS	3	3	9	-	-	08"
Pennisetum macrourum	364988	3820	PB	3	3	9	-	-	48"
Pennisetum macrourum	364989	3821	PS	3	3	9	-	-	72"
Pennisetum macrourum	364990	3822	PS	3	7	9	-	Sept.	36"
Pennisetum unisetum	304750	3450	NG	-	-	-	-	-	-
Phalaris aquatica	302473	2729	PS	-	7	7	1	June	16"
Phalaris aquatica	316320	2730	PS	-	7	7	1	July	12"
Phalaris aquatica	PMT 939	3160	PS	-	5	5	1	July	12"
Phalaris aquatica x arundinacea	BN 12103-63	1897	PS	-	3	7-	1	June	18"
Phalaris aquatica x arundinacea	BN 13575-66	2547	PS	-	5	7	1	June	18"
Phalaris arundinacea	316330	2731	PS	-	1	5	1	June	30"
Phalaris arundinacea	297362	2840	Discarded	-	-	-	-	-	-
Phalaris arundinacea	236525	2931	PS	-	3	5	1	June	30"
Phalaris tuberosa		2641	PB	-	3	3	1	June	24"
Phragmites communis	PMK 1271	3109	PS	-	7	9	1	-	48"
Phragmites communis	T 2380	3642	Died	-	-	-	-	-	-



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Phragmites communis	T 2376	3643	Died	-					
Polygonum cuspidatum	TN 71-3	3524	PS	-	5	7	1	Sept.	36"
Polygonum cuspidatum compactum	NY 1119	3246	PS	-	5	7	1	Sept.	18"
Polygonum fuscipidum	211074	3489	PB	-	9	5	1	July	06"
Polygonum fugax	219939	3490	PB	-	9	5	1	July	06"
Polygonum fugax	220617	3491	PB	-	9	5	1	July	06"
Polygonum fugax	220619	3492	PB	-	9	5	1	July	06"
Polygonum monspeliensis	202514	3493	Discarded	-	9	5	1	July	06"
Polygonum monspeliensis	219940	3494	Discarded						
Polygonum monspeliensis	204728	3495	Discarded						
Polygonum monspeliensis	204729	3496	Discarded						
Polygonum monspeliensis	287919	3497	Discarded						
Polygonum monspeliensis	317466	3498	Discarded						
Polygonum monspeliensis	317467	3499	Discarded						
Rudbeckia sp.,		3277	PB	-	3	3	1	July	36"
Rudbeckia sp.,		3278	PB	-	3	3	1	July	36"
Rudbeckia sp.,		3279	PB	-	5	5	1	July	30"
Rudbeckia sp.,		3280	PB	-	3	5	1	July	36"
Rudbeckia sp.,		3287	PB	-	3	3	1	July	40"
Rudbeckia sp.,		3318	PB	-	5	5	1	July	30"
Sorghum sp.,		3829	AB	1	3	3	-	Sept.	20"
Sorghastrum nutans		145	PB	-	7	5	1	Oct.	30"
Sorghastrum nutans		228	PB	-	3	3	1	Oct.	48"
Sorghastrum nutans		1746	PB	-	5	5	1	Oct.	42"
Sorghastrum nutans		1747	PB	-	3	3	1	Oct.	48"
Sorghastrum nutans		1748	PB	-	3	3	1	Oct.	48"
Sorghastrum nutans		2227	PB	-	3	3	1	Oct.	42"
Sorghastrum nutans		2462	PB	-	3	3	1	Oct.	48"
Sorghastrum nutans		2463	PB	-	5	5	1	Aug.	24"
Sorghastrum nutans		2464	PB	-	5	5	1	Sept.	30"
Sorghastrum nutans		2465	PB	-	5	5	1	Sept.	36"
Sorghastrum nutans		2466	PB	-	5	5	1	Sept.	42"
Sorghastrum nutans		2467	PB	-	5	5	1	Sept.	42"



Species	PI or Other No.	MS No.	Growth Type	Seed Vigor	Leaf Prod.	Seed Prod.	Winter Injury	Matu- rity	Plant Height
Sorghastrum nutans	AM 1323	2468	PB	-	3	3	1	Oct.	54"
Sorghastrum nutans	AM 1386	2469	PB	-	3	3	1	Oct.	54"
Sorghastrum nutans	AM 1387	2471	PB	-	3	3	1	Oct.	42"
Sorghastrum nutans	AM 1388	2472	PB	-	3	5	1	Oct.	42"
Sorghastrum nutans	AM 1760	2473	PB	-	3	3	1	Oct.	42"
Sorghastrum nutans		2477	PB	-	3	3	1	Oct.	30"
Sorghastrum nutans		2478	PB	-	3	3	1	Oct.	42"
Sorghastrum nutans		2479	PB	-	5	5	1	Sept.	36"
Sorghastrum nutans		2482	PB	-	3	3	1	Oct.	48"
Sorghastrum nutans		2558	PB	-	3	3	1	Oct.	42"
Sporobolus virginicus	28252	3296	Died						
Sporobolus virginicus	300126	3297	Died						
Stipa barbata	330722	3006	Discarded						
Stipa pulchra	PL 105-71	3632	Died						
Stipa pulchra	PL 104-71	3633	Died						
Themeda anathera	368029	3775	PB	5	5	7	-	Aug.	16"
Themeda triandra	206349	1860	PB	-	5	3	1	July	12"
Urochloa mosambicensis	365088	3824	AS	3	3	3	-	Aug.	18"
Urochloa mosambicensis	365076	3825	AS	5	5	5	-	Aug.	12"
Urochloa mosambicensis	365084	3826	AS	3	3	5	-	Aug.	16"
Urochloa mosambicensis	365086	3827	AS	3	3	3	-	Aug.	18"
Urochloa mosambicensis	364371	3828	NG						
Urochloa stolonifera	365517	3823	Died						
Vicia tenuifolia	314349	3591	NG						
Zizaniopsis miliacea		3125	PS	-	3	7	1	Aug.	48"
Zizaniopsis miliacea		3126	PS	-	3	7	1	Aug.	48"
Zizaniopsis miliacea		3127	PS	-	5	7	1	Aug.	42"
Zizaniopsis miliacea		3128	PS	-	3	7	1	July	54"
Zizaniopsis miliacea		3183	PS	-	5	1	1	Oct.	18"
Zizaniopsis miliacea		3190	PS	-	1	7	1	July	60"
Zizaniopsis miliacea		3191	Died						

CODE:

A. - Annual  
P. - Perennial  
NG. - No Germination

1 - Excellent  
3 - Good  
5 - Fair

7 - Poor  
9 - Very Weak

B - Bunch  
S - Sod



# TREES AND SHRUBS

The following are initial observations ratings for trees and shrubs. These observations are made the year of planting and approximately each three to five years thereafter. They may be made yearly if growth characteristics justifies it.

Species	PI or Other No.	MS No.	Date Planted	Deci- dious	Ever- green	Insect Injury	Winter Injury	Matu- rity	Plant Height	Plant width
Abies kawakamii	324940	3592	3-23-71		x	1	1	-	10"	08"
Abies koreana	317188	3593	Died							
Akebia quinata	MI 1100	3211	4-2-70		x	1	1	-	12"	72"
Alnus mayrli	317356	2902	Died							
Arctostaphylos uva-ursi	BN 8967	3682	9-24-71		x	1	1	-	08"	12"
Buxus harlandii	66282	3627	11-5-71		x	1	1	-	08"	06"
Castanea mollissima	AM 2529	3506	4-16-71	x		1	1	-	24"	24"
Castanopsis sclerophylla	58394	3171	12-69		x	1	1	-	08"	06"
Chamearops maria		3614	Died							
Citrangequat	CVB 480100	3644	7-20-71		x	1	7	-	60"	13"
Cornus stolonifera	BN 18921-70	3801	4-72			1	-	-	15"	12"
Elaeagnus umbellata		3515	Died							
Euonymus bungeanus	985	2945	NG							
Hydrangea integrifolia		3216	Died							
Juglans regia	AM 2569	3512	Died							
Juniperus ashei	BN 20388	3611	5-1-72		x	1	-	-	06"	04"
Juniperus chinensis	317238	3594	3-23-71		x	1	1	-	08"	06"
Juniperus silicicola	BN 20389	3612	4-72		x	1	1	-	18"	12"





Species	PI or Other No.	MS No.	Date Planted	Decid- uous	Ever green	Insect Injury	Winter Injury	Matu- rity	Plant Height	Plant Width
<i>Libocedrus decurrens</i>		3168	11-69		x	1	1	-	18"	12"
<i>Lonicera maackii</i>	NJ 918-70	3522	Died							
<i>Myrica carolinensis</i>		3688	4-10-72-NG							
<i>Myrica cerifera</i>		3685	4-10-72-NG							
<i>Myrica cerifera</i>		3686	4-10-72-NG							
<i>Myrica cerifera</i>		3687	4-10-72-NG							
<i>Myrica cerifera</i>		3699	4-10-72-NG							
<i>Myrica cerifera</i>		3700	4-10-72-NG							
<i>Myrica cerifera</i>		3714	4-10-72-NG							
<i>Myrica cerifera</i>		3718	4-10-72-NG							
<i>Myrica cerifera</i>		3720	4-10-72-NG							
<i>Myrica cerifera</i>		3723	4-10-72-NG							
<i>Myrica cerifera v pumila</i>	NC 71-36	3706	4-10-72-NG							
<i>Myrica cerifera v pumila</i>	NC-71-42	3711	4-10-72-NG							
<i>Myrica cerifera v pumila</i>		3722	4-10-72-NG							
<i>Myrica gale</i>	368020	3773	4-10-72-NG							
<i>Myrica gale</i>	EN 21969-71	3774	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 1108 =	3500	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC-71-33	3703	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC 71-34	3704	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC 71-35	3705	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC-71-37	3707	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC-71-38	3708	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC-71-39	3709	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC 71-40	3710	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NC-86-65	3713	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 92-65	3715	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 97-65	3716	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 105-65	3717	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 111-65	3719	4-10-72-NG							
<i>Myrica pennsylvanica</i>	NJ 1108-67	3721	4-10-72-NG							
<i>Myrica pumilus</i>		3701	4-10-72-NG							
<i>Myrica pumilus</i>		3702	4-10-72-NG							



Species	Pl or Other No.	MS No.	Date Planted	Decid- ious	Ever green	Insect Injury	Winter Injury	Matu- rity	Plant Height	Plant Width
Myrica sp.,		3689	4-10-72-NG							04"
Pinus ponderosa		3169	12-3-69		x	1	1	-	08"	04"
Pinus sylvestris	343946	3143	12-3-69		x	1	1	-	03"	04"
Pinus sylvestris	343947	3145	12-3-69		x	1	1	-	08"	04"
Pittosporum tobira	NC 67-23	2678	4-71		x	1	9	-	20"	20"
Populus x canadensis Moench	355933	3804	4-72	x		1	1	-	24"	-
Populus x canadensis	355934	3805	4-19-72	x		1	1	-	30"	-
Populus x canadensis	355935	3806	4-19-72	x		1	1	-	18"	-
Populus x canadensis	355936	3807	4-19-72	x		1	1	-	24"	-
Populus x canadensis	355937	3808	4-19-72	x		1	1	-	18"	-
Populus simoni	KY 725	3210	4-16-71	x		1	1	-	30"	12"
Potentilla tridentata	BN 11030	3683	9-24-71		x	1	1	-	08"	12"
Salix luteus	PMT 2391	3603	4-71	x		1	1	-	36"	42"
Salix sp.	F 5615	3616	5-71	x		1	1	-	30"	30"
Salix sp.,	F 5618	3619	5-71	x		1	1	-	24"	12"
Salix sp.,	F 5620	3621	5-71	x		1	1	-	30"	36"
Salix sp.,	F 5621	3622	5-71	x		1	1	-	36"	36"
Salix x multinervis	BN 13559-62		898-5-5-66	x		1	1	-	24"	24"
Thuja orientales	A M 2352	3517	4-16-71		x	1	1	-	12"	12"
Viburnum japonicum	235518	3596	3-23-71	x		1	1	-	12"	08"
Viburnum lantana	316679	3219	4-23-70-	x		1	1	-	36"	18"
Viburnum lantana	316679	3257	7-28-70	x		1	1	-	12"	06"
Viburnum rufidulum		3291	4-10-72 -NG							
Virburnum sargentii	682	3220	4-23-70	X		1	1	-	30"	18"
Virburnum sargentii	316681	3259	7-28-70	X		1	1	-	30"	30"
Virburnum x rhytidophylloides	316675	3256	7-28-70	x		1	1	-	24"	18"
Virburnum	316676	3258	7-28-70	x		1	1	-	18"	12"

CODE: WINTER AND INSECT INJURY

1: - ... 20%

3: 21 ... 40%

NG--- No Germination

5: 41 ... 60%

7: 61 ... 80%

9: 81 ... 100%





